

Claims:

1. A fishing line bite detector alarm comprising:

(A) a first means for holding a fishing line, said means including a slit for enabling resistance of forward and backward movement of said fishing line held within said means as the line is inserted further into the slit until the desired resistance of forward and backward line movement within said slit occurs, thereby allowing actuation of said means in response to forward and backward line tension, said means further including a pivot ball for supplying forward and back rotational movement of said means;

(B) a second means for luminating and sounding visible and audible alarm signals respectively;

(C) a third means for completing an electrical circuit delivering electrical energy for activating said second means, said means including a lever that is connected to the first means;

(D) a fourth means for supplying electrical energy to said second and third means;

(E) a fifth means for connecting to said fourth means and for allowing said fourth means to supply electrical energy to said second means and said third means;

(F) a sixth means for holding and connecting thereto said second, third and fifth means;

(G) a seventh means for opening and closing said fishing line bite detector alarm, for enclosing said second means, said third means, said fourth means, said fifth means, and said sixth means of said fishing line bite detector alarm, the seventh means including an exterior section that is a spherical open ended socket contouring to the pivot ball, said pivot ball snapping into the exterior section thereby allowing the first means to rotate freely with uniform frictional drag, wherein said first means connects within said seventh means, and wherein said fourth, and sixth means connect within said seventh means; and

(H) an eighth means for attaching said bite detector alarm to a fishing rod, said eighth means connecting to said seventh means.

2. The fishing line bite detector of claim 1 wherein said first means is an actuator arm that is a solid cylindrical injection molded piece comprising a slotted stem section, having a top slot, molded horizontally across the center of said stem section approximately 90 degrees in relation to a

bottom slot, a variable sized slit, and a line hole, said bottom slot, said variable sized slit, and said line hole, all molded within a slotted bottom section, said stem section extending downward into approximate top center of the spherical pivot ball section, a mid arm section extending downward from approximate bottom center of said pivot ball section and transitioning to said slotted bottom section, said bottom slot comprising rounded sides upwardly tapering until touching together and transitioning to said slit, and said slit upwardly tapering and transitioning to said line hole, said actuator arm for initiating completion of an electrical circuit, by said top slot integrally connecting to said third means and said actuator arm forwardly actuating when said line within said actuator arm is being tensioned, the actuator arm for holding said fishing line, by said fishing line installing from the bottom of, and into the actuator arm, said pivot ball section for supplying forward and back rotational movement allowing smooth actuation of said actuator arm by snapping into the exterior section of said seventh means contouring to said pivot ball section, said bottom slot for installing said line within said actuator arm, said slit for enabling resistance of forward and backward line movement to allow

actuation of said actuator arm, by receiving said line until restriction of said line movement within said slit occurs, allowing forward actuation of said actuator arm when said line is tensioned, said bottom slot and said slit for preventing said line from falling out of said actuator arm, by allowing said line to rest in a large opening in said slit, and on top of the touching sides of said bottom slot, said line hole for supplying tension relief to said actuator arm while said line is held within said actuator arm, by allowing said line to be pulled through said slit and into said line hole as increased tensioning to said line occurs thus relieving said actuator arm of tension from said line, the large opening in said slit, and said line hole for allowing said line freedom of forward movement to any desired location when said line is cast, by supplying zero resistance of forward and backward line movement within said slit and said line hole.

3. The fishing line bite detector of claim 1 wherein said second means is a PC board mountable lamp socket receiving a filamented incandescent screw based lamp, and a PC board mountable electro magnetic buzzer, said lamp and said buzzer for luminating and sounding said alarm signals respectively,

by displaying light and producing sound alerting an angler to the presence of a fish that is either nibbling on a bait or that has been hooked.

4. The fishing line bite detector alarm of claim 1 wherein said third means is a PC board mountable modified leaf on-off switch including an upper common contact terminal pin and a common leaf contact arm terminal pin, both molded in a switch housing, approximate left and right sides of said switch housing comprising a plurality of molded circular switch support pins extending down, a switch lever having an L section molded horizontally outward then vertically downward lateral a side of said switch lever, a tee section horizontally molded lateral a top end of said switch lever, said switch lever being molded to and extending from said switch housing, an upper common contact point and a common leaf contact arm, both running parallel with said switch lever, a tension spring clip attaching to said L section and

said common leaf contact arm, a molded top with integral contouring left and right sides including a switch lever stop pin, said switch for completing said electrical circuit delivering electrical energy for activating a filamented incandescent screw based lamp and a PC board mountable electro magnetic buzzer, by said switch lever connecting to said spring clip that is connected to said common leaf contact arm, and by said switch lever integrally connecting to a top slot, in an actuator arm, allowing said common leaf contact arm to make contact with said upper common contact point when said actuator arm is completely actuated, resulting from said line within said actuator arm being fully tensioned, said spring clip for eliminating false alarm signals from said lamp and said buzzer, by supplying resistance against actuation of said actuator arm when said line within said actuator arm is semi tensioned due to water conditions, or movement of a live bait fish on a hook, or when said line within said actuator arm is being cast from a reel, said switch lever, and said spring clip, for enabling a self-adjusting unactuated alarm ceasing position, by allowing said actuator arm to automatically return to said self-adjusting unactuated alarm ceasing position when said line within said actuator arm is

untensioned or pulled into said line hole, causing said contact arm to separate from said contact point thus ceasing said alarm signals, said tee and said L section for preventing side to side movement of said actuator arm by tightly fitting on each side of a slotted stem section, said switch for supplying clearance space to allow actuation movement of said actuator arm, by supplying space between a bottom side of said spring clip and said sixth means, also by supplying space around said top with integral contouring left and right sides, allowing proper actuation movement of said switch lever integrally connected to said actuator arm, said L section and said stop pin for creating a primary stopping point for said actuator arm, by said L section making contact with said stop pin, thus stopping said switch lever from moving too far forward when said actuator arm is fully actuated, and preventing damage to elements of said switch, caused by over tensioning of said line within said actuator arm, or should someone attempt to pull said actuator arm excessively backward from said self-adjusting unactuated alarm ceasing position, said top with integral contouring left and right sides for preventing outside sources from interfering with the functioning of said on-off switch, occurring with frequent

opening of said seventh means, by covering elements of said on-off switch.

5. The fishing line bite detector alarm of claim 1 wherein said fourth means is a battery, said battery for supplying electrical energy to a PC board mountable lamp socket receiving a filamented incandescent screw based lamp, a PC board mountable electro magnetic buzzer, and a PC board mountable modified leaf on-off switch.

6. The fishing line bite detector alarm of claim 1 wherein said fifth means is a battery connector, said battery connector for connecting to a battery allowing said battery to supply electrical energy to a PC board mountable lamp socket receiving a filamented incandescent screw based lamp, a PC board mountable electro magnetic buzzer, and a PC board mountable modified leaf on-off switch.

7. The fishing line bite detector alarm of claim 1 wherein said sixth means is a round printed circuit board, having a PC board mountable lamp socket receiving a filamented incandescent screw based lamp, a PC board mountable electro



magnetic buzzer, a PC board mountable modified leaf on-off switch, and a battery connector soldered thereto, said circuit board comprising a centered hole, said switch soldered onto said circuit board so that a switch lever is positioned centrally over said centered hole, placing a tee section on approximate edge of said centered hole, a face of said lamp socket, a sound hole of said buzzer, and said battery connector positioned on approximate edge of said circuit board at a plurality of points, said centered hole for supplying actuating space to an actuator arm by allowing a slotted stem section adequate forward and back movement within said centered hole, said centered hole for creating a secondary stopping point for said actuator arm, by causing said stem section to stop when making contact with the edge of said centered hole should a primary stopping point of said switch fail, thus further preventing damage to elements within said switch caused by over tensioning of said line within said actuator arm, or should someone attempt to pull said actuator arm excessively backward from said self-adjusting unactuated alarm ceasing position, said centered hole for allowing integral installation of said actuator arm to said switch by supplying said stem section access for integrally connecting

to the switch lever.

8. The fishing line bite detector alarm of claim 1 wherein said seventh means is an opaque injection molded cylindrical plastic housing, comprising an operatable housing lid, said housing lid including a vertical side having a molded horizontal lip lateral an interior surface of said vertical side, a finger grip protrusion molded onto an exterior side of said housing lid, a battery holder molded onto an interior side of said housing lid, a housing body comprising a cylindrical vertical side having a horizontal lip molded lateral the exterior circumference of said cylindrical vertical side, said housing body including a hinge molded onto the exterior side of said housing lid and onto said horizontal lip lateral the exterior circumference of said cylindrical vertical side, said housing body including a molded lamp hole and a molded buzzer hole thereinto, said housing body molded to a cylindrical housing bottom having a plurality of stationary board pins molded onto an interior side of said housing bottom at a plurality of points, an open ended interior section that is cylindrical, molded on said interior side of said housing bottom, a snap action socket exterior

section that is the spherical open ended socket contouring to the pivot ball, said exterior section molded onto said housing bottom, said plastic housing for enclosing a PC board mountable lamp socket receiving a filamented incandescent screw based lamp, a PC board mountable electro magnetic buzzer, a PC board mountable modified leaf on-off switch, a battery, a battery connector, and a round printed circuit board, of said fishing line bite detector alarm, said plastic housing for keeping components of said fishing line bite detector alarm safe from weather elements, for preventing outside sources from interfering with the functioning of said fishing line bite detector alarm, by said housing lid closing onto said housing body with said horizontal lips creating a water tight seal, said battery holder for securing said battery inside said plastic housing by allowing said battery to be snapped securely into place, eliminating the possibility of said battery moving around within said fishing line bite detector alarm, said molded lamp and said molded buzzer holes for allowing said alarm signals, to be installed and seen and heard externally from said fishing line bite detector alarm, by enabling a screw base of said lamp to be installed through said molded lamp hole and into said lamp socket, from an

an exterior side of said housing body, leaving the luminating portion of said lamp externally exposed from said housing body, and by aligning the sound hole in said buzzer with said molded buzzer hole in said housing body, allowing the audible alarm signal to pass outwardly through said molded buzzer hole, said board pins for securing said circuit board inside said housing body by aligning with, and being received by, a plurality of stationary board pin holes within said circuit board at a plurality of points, said board pins, and said open ended interior section, for evenly balancing and fortifying the edge and center of said circuit board when said circuit board is installed onto said board pins and said open ended interior section, by portions of said board pins being the same height as said open ended interior section and said board pins positioned inward from the outer circumference of said interior side of said housing bottom at said plurality of points, said exterior section for allowing the actuator arm to rotate freely with uniform frictional drag, by the interior of said exterior section contouring to the pivot ball.

9. The fishing line bite detector alarm of claim 1 wherein said eighth means is a pole clip that is a tubular piece

including a molded gap in a center on a top side of said pole clip along the entire length, a bottom side of said pole clip connecting to a center of a top exterior side of a housing lid, said pole clip for attaching said fishing line bite detector alarm to said rod, by snapping a section of said rod through said molded gap and into said pole clip, with said pole clip securely contouring to said rod.

10. The fishing line bite detector alarm of claim 7 further including a ninth means for receiving a plurality of stationary board pins for securing said printed circuit board inside an opaque injection molded cylindrical plastic housing.

11. The fishing line bite detector alarm of claim 10 wherein said ninth means is a plurality of stationary board pin holes within said printed circuit board at a plurality of points, said board pin holes for receiving said board pins, by said board pin holes aligning with, and slipping over said board pins.

12. The fishing line bite detector alarm of claim 1 further including a tenth means for making a molded lamp hole water

tight, after a filamented incandescent screw based lamp is installed into a PC board mountable lamp socket, and for eliminating the loss of said audible alarm signal from a PC board mountable electro magnetic buzzer heard externally from said fishing line bite detector alarm.

13. The fishing line bite detector alarm of claim 12 wherein said tenth means is a plurality of rubber grommets, said grommets for making said lamp hole water tight, by installing around the circumference of said lamp hole, creating a water tight seal after said lamp is installed into said lamp socket, said grommets for eliminating the loss of the audible alarm signal from said buzzer heard externally from said fishing line bite detector alarm, by installing around the circumference of a molded buzzer hole, and tightly butting against a face of said buzzer, creating a tight fit around a sound hole of said buzzer when a round printed circuit board is installed inside an opaque injection molded cylindrical plastic housing, allowing said alarm signal from said buzzer to be directly projected outwardly, rather than dissipating within said plastic housing.

14. The fishing line bite detector alarm of claim 1 further including an eleventh means for diverting electrical energy between a PC board mountable lamp socket receiving a filamented incandescent screw based lamp, and a PC board mountable electro magnetic buzzer.

15. The fishing line bite detector alarm of claim 14 wherein said eleventh means is a three position switch soldered onto a round printed circuit board, said three position switch for diverting electrical energy between said lamp socket receiving said lamp, and said buzzer, by directing electrical energy to either said lamp socket receiving said lamp, or said buzzer, or both.

16. The fishing line bite detector alarm of claim 1 further including a twelfth means for containing a pivot ball section that is free floating.

17. The fishing line bite detector alarm of claim 16 wherein said twelfth means is an open ended exterior section having an interior that is non spherical, said open ended exterior section molded onto a cylindrical housing bottom, said open

ended exterior section for containing said pivot ball section that is free floating, by said pivot ball section not touching the interior of said open ended exterior section, with the functioning of said bite detector alarm depending on an integral connection of a slotted stem section to a switch lever allowing an actuator arm to rotate when said line within said actuator arm is tensioned.

18. The fishing line bite detector alarm of claim 1 further including a thirteenth means for securing a battery onto a round printed circuit board inside an opaque injection molded cylindrical plastic housing.

19. The fishing line bite detector alarm of claim 18 wherein said thirteenth means is a PC mountable battery holder soldered onto said printed circuit board, said battery holder for securing said battery onto said circuit board inside said plastic housing, by allowing said battery to be snapped securely into place eliminating the possibility of said battery moving around within said plastic housing.

20. The fishing line bite detector alarm of claim 8 further



including a fourteenth means for allowing access to a switch lever on a PC board mountable three position switch

21. The fishing line bite detector of claim 20 wherein said fourteenth means is a molded switch hole within a housing body, said molded switch hole for allowing access to said switch lever on said three position switch by allowing said switch lever to protrude externally from said housing body.

22. The fishing line bite detector alarm of Claim 17, further comprising a fifteenth means for allowing an actuator arm stable forward and back actuation movement when the fishing line within said arm is tensioned then untensioned.

23. The fishing line bite detector alarm of claim 22 wherein said fifteenth means is a pivot pin, said pivot pin for allowing said actuator arm stable forward and back actuation movement by installing through a hole in one side of an open ended exterior section, then through a hole in said actuator arm then through a hole in the other side of said exterior section allowing said actuator arm to securely rest on said pivot pin thus eliminating all unnecessary play and movement

in the actuator arm, except for smooth forward and back actuation movement as directed when the fishing line within said actuator arm is tensioned then untensioned.

24. The fishing line bite detector alarm of Claim 1, further comprising a sixteenth means for diverting electrical energy between a printed circuit board mountable lamp socket receiving a filamented incandescent screw based lamp and a printed circuit board mountable electro magnetic buzzer, for supplying electrical energy to the lamp and to the buzzer at the same time, for enabling a constantly on position for the lamp while the bite detector alarm is in the unactuated alarm ceasing mode, and for preventing the flow of electrical energy at the same time to the lamp and to the buzzer and to a printed circuit board mountable modified leaf on-off switch.

25. The fishing line bite detector alarm of Claim 24, wherein said sixteenth means is a five position switch coupled to a round printed circuit board, the five position switch for diverting electrical energy between the lamp socket receiving the lamp and the buzzer, and for supplying electrical energy to the lamp and to the buzzer at the same time, and for

enabling the constantly on position for the lamp while the bite detector alarm is in the unactuated alarm ceasing mode, and for preventing the flow of electrical energy at the same time to the lamp and to the buzzer and to the off-on switch, by setting the five position switch to the desired position assigned to complete each specifically mentioned function.

26. The fishing line bite detector alarm of Claim 1, further comprising a seventeenth means for allowing access to a switch lever on a printed circuit board mountable five position switch.

27. The fishing line bite detector alarm of Claim 26, wherein said seventeenth means is a switch hole formed within a housing body, the switch hole for allowing access to the switch lever on the five position switch by allowing the switch lever to protrude externally from the housing body.

28. The fishing line bite detector alarm of Claim 1, further comprising an eighteenth means for diverting electrical energy between a printed circuit board mountable lamp socket receiving a filamented incandescent screw based lamp and a

printed circuit board mountable electro magnetic buzzer, for supplying electrical energy to the lamp and to the buzzer at the same time, and for enabling a constantly on position for the lamp while the bite detector alarm is in the unactuated alarm ceasing mode.

29. The fishing line bite detector alarm of Claim 28, wherein said eighteenth means is a four position switch coupled to a round printed circuit board, the four position switch for diverting electrical energy between the lamp socket receiving the lamp and the buzzer, and for supplying electrical energy to the lamp and to the buzzer at the same time, and for enabling the constantly on position for the lamp while the bite detector alarm is in the unactuated alarm ceasing mode, by setting the four position switch to the desired position assigned to complete each specifically mentioned function.

30. The fishing line bite detector alarm of Claim 1, further comprising a nineteenth means for allowing access to a switch lever on a printed circuit board mountable four position switch.

31. The fishing line bite detector alarm of Claim 30, wherein said nineteenth means is a switch hole formed within a housing body, the switch hole for allowing access to the switch lever on the four position switch by allowing the switch lever to protrude externally from the housing body.